

## ISS U. S. National Laboratory NanoRacks III Facility, Phase I

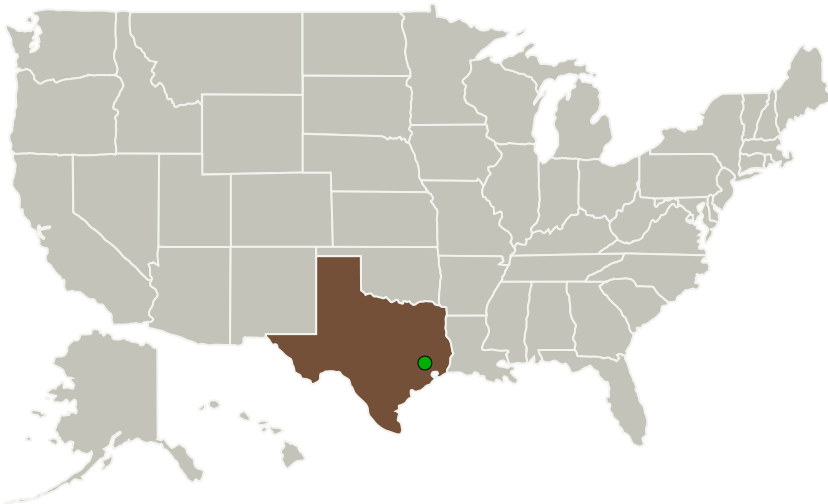
Completed Technology Project (2011 - 2011)




## Project Introduction

This Phase I study will design a flight qualified NanoRacks III Facility that is similar to the conventional NanoRacks facilities currently on the ISS but with increased power, cooling and real-time data downlink/uplink capability that will increase the capacity of on-orbit testing and analysis thus reducing or eliminating sample return to Earth. A NanoRacks III Facility will allow on-orbit testing and flight qualification (elevation of TRL to 7 and higher) of critical space hardware systems and biological research hardware which will enable crew to conduct experimentation, data collection and change implementation on-orbit with guidance from ground researchers. NanoRacks, LLC proposes to design and prepare for fabrication the NanoRacks III facility which can be transported on any carrier (e.g. Progress, Dragon, HTV, etc.) to the ISS, installed in an ISS ExPRESS Rack and utilized with an ISS ExPRESS Rack computer. The Phase I study will design the NanoRacks III Facility to support the Phase II construction and flight of the NanoRacks III Facility.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Nanoracks, LLC	Lead Organization	Industry	Alexandria, Virginia
 Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas



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#### Primary U.S. Work Locations

Texas

#### Project Transitions



**February 2011:** Project Start



**August 2011:** Closed out

##### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138239>)

#### Organizational Responsibility

##### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

##### Lead Organization:

Nanoracks, LLC

##### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

#### Project Management

##### Program Director:

Jason L Kessler

##### Program Manager:

Carlos Torrez

##### Principal Investigator:

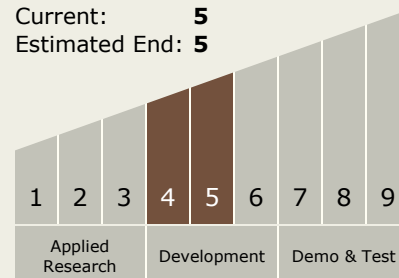
Michael J Johnson

#### Technology Maturity (TRL)

Start: 4

Current: 5

Estimated End: 5





## Technology Areas

### Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - └ TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
    - └ TX06.1.3 Waste Management

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System